

Name: _____ Teacher: _____ School: _____

Grade 7: Lesson 2 Use Properties of Operations to Generate Equivalent Expressions

Rewrite these expressions as equivalent expressions without using a calculator

a. $3(2x)$

b. $4y(5)$

c. $4(2)(z)$

d. $3(2x) + 4y(5)$

e. $3(2x) + 4y(5) + 4(2)(z)$

f. Alexander says that $3x + 4y$ is equivalent to $3(4) + xy$ because of any order, any grouping. Is he correct? Why or why not?

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Grade 7: Lesson 3 Simplifying and Proving Expressions

Simplify each expression. Verify that your expressions are equivalent by evaluating each expression using $x = 5$.

a. $3x + (2 - 4x)$

b. $3x + (-2 + 4x)$

c. $-3x + (2 + 4x)$

d. $3x + (-2 - 4x)$

e. $3x - (2 + 4x)$

f. $3x - (-2 + 4x)$

g. $3x - (-2 - 4x)$

h. $3x - (2 - 4x)$

i. $-3x - (-2 - 4x)$

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Grade 7: Lesson 4 Inequalities

Solve each inequality. Justify your answers.

a. $x - 7 \leq 9$

b. $x + 7 \leq 9$

c. $x + 7 \leq -9$

d. $x - 7 \leq -9$

e. $3x > 9$

f. $-3x > 9$

g. $3x > -9$

h. $-3x > -9$

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Grade 7: Lesson 5 Real world inequalities

Solve the inequality and interpret the solution:

The carnival owner pays the owner of an exotic animal exhibit \$650 for the entire time the exhibit is displayed. The owner of the exhibit has no other expenses except for a daily insurance cost. If the owner of the animal exhibit wants to make more than \$500 in profits for the $5\frac{1}{2}$ days, what is the greatest daily insurance rate he can afford to pay?